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INCIDENCE AND IMPACT OF ACUTE KIDNEY INJURY (AKI) POST TRANS-CATHETER AORTIC VALVE REPLACEMENT (TAVR) USING THE NEW VALVE ACADEMIC RESEARCH CONSORTIUM (VARC) CRITERIA

i2 Oral Contributions
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Session Title: Outcomes in Patients Treated with TAVR
Abstract Category: 20. PCI - Valvular Heart Disease
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Background: Acute kidney injury (AKI) is associated with a poor prognosis after transcatheter aortic valve replacement (TAVR). A paucity of data exists regarding the incidence and impact of AKI post TAVR using the new recommended VARC criteria.

Methods: At Columbia University Medical Center, 218 TAVR procedures (64.2% trans-femoral vs. 35.8% trans-apical (TA)) have been performed between 2007 and July 2011. Creatinine level was evaluated daily until discharge. Using VARC definitions, 30-day and 1-year outcomes were compared between patients with significant AKI (AKI 2 or 3) compared to no AKI.

Results: AKI occurred in 18 pts (8.3%). Among them, 10 pts (55.6%) were AKI 3 and 9 (50%) needed dialysis. AKI was associated with a lower baseline mean gradient (37.6 ± 11.4 vs. 45.6 ± 14.8, p=0.03). Post procedure, the AKI group had a greater hemoglobin drop (3.6±2.0 vs. 2.4±1.3, p=0.01), higher troponin elevation, (7.0 ± 11.9 vs. 2.1 ± 4.2), p<0.001) and a longer hospitalization duration (10.7 days ± 6.4 vs. 7.7 days ± 8.5, p<0.001). One stroke occurred in the AKI group (5.6%) compared to 3 in no AKI group (1.5%), p=0.29. Thirty-day rate of death (44.4% vs. 6.4%, HR: 14.8, 95%CI [5.8,38.0], p<0.0001) and 1-year rate of death was higher in the AKI group compared to no AKI (HR 6.3 [95%CI 4.4-19.8, p<0.0001]). In a multivariate model, AKI remains the strongest independent predictors of death at 1-year.

Conclusion: Occurrence of AKI as defined by the VARC criteria is associated with a poor prognosis after TAVR.